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**ECONOMIC INSECT  
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**PLANT PROTECTION DIVISION**

**AGRICULTURAL RESEARCH SERVICE**

**UNITED STATES DEPARTMENT OF AGRICULTURE**

# AGRICULTURAL RESEARCH SERVICE

## PLANT PROTECTION DIVISION

### ECONOMIC INSECT SURVEY AND DETECTION

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearing house and does not assume responsibility for accuracy of the material.

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**COOPERATIVE ECONOMIC INSECT REPORT****HIGHLIGHTS**Current Conditions

ARMYWORM larvae damaged no-till corn in Virginia and Maryland. GREENBUG heavy on sorghum in several central and western States. (pp. 443-444).

EUROPEAN CORN BORER eggs on corn in most eastern and several central States. BLACK CUTWORM damaged corn in Maryland, North Carolina, and Wisconsin. SUGARCANE BEETLE damaged corn in Alabama. CHINCH BUG heavy on sorghum in Texas and Oklahoma. (pp. 445-446).

ALFALFA WEEVIL distribution statewide in Missouri and Oklahoma. ALFALFA LOOPER heavy in Washington. LEAFMINER FLIES damaged alfalfa in New York. (pp. 447-448).

SUGARBEET ROOT MAGGOT damaged sugar beets in Wyoming and heavy in Minnesota. (pp. 449-450).

ELM LEAF BEETLE heavy on elms in Arkansas, Kansas, and Arizona. (p. 455).

NORTHERN CATTLE GRUB adults and HORN FLIES annoying cattle in Wisconsin. (pp. 455-456).

GRASS BUGS damaged range grasses in Idaho and Utah, and wheat in Washington. GRASSHOPPERS heavy in several southwest and western States. WHITEFRINGED BEETLE larvae damaged tobacco in North Carolina and corn in Alabama. (pp. 457-459).

Detection

A JUMPING GROUND BUG reported for first time from New Hampshire. (p. 460).

For new county records see page 460.

Special Reports

Insects Not Known to Occur in the United States  
Lappet Moth (Gastropacha quercifolia (L.)) (pp. 463-464).

Distribution of Sugarcane Beetle. Map. (p. 462).

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WEATHER OF THE WEEK ENDING JUNE 21

Reprinted from Weekly Weather and Crop Bulletin supplied by Environmental Data Service, NOAA.

**HIGHLIGHTS:** Summer heat prevailed over most of the Nation. Afternoon and evening thundershowers brought most of the rain to the eastern half of the Nation.

**PRECIPITATION:** Most of the precipitation occurred in connection with afternoon and evening thunderstorms over the Great Plains and eastward to the middle and southern Atlantic coast. Hail, high winds, and torrential showers accompanied some of the thunderstorms. Early Monday evening, hail about size of marbles accumulated to a depth of 4 inches at Eads, Colorado, about 95 miles east of Pueblo. Thunderstorms were widespread from the central Great Plains to the middle and southern Atlantic coast Tuesday. Evansville, Indiana, received 1.75 inches of rain in about 20 minutes in afternoon, rainfall of this intensity falls in streams instead of drops. It is sometimes referred to as a cloudburst. A thunderstorm at Wilmington, North Dakota, produced hail as large as baseballs and 80 m.p.h. wind gusts lashed Hill City, Kansas, late Wednesday. Summer thunderstorms continued over much of mid-America in the last half of the week and over the weekend, being especially frequent and widespread along and in moist air east of a quasi stationary front that stretched from the Great Lakes to northern Texas. Little Rock, Arkansas, received 1.25 inches of rain in 20 minutes late Friday. Hail up to 2.5 inches in diameter pelted an area a few miles northwest of Dickenson, North Dakota, and winds reaching 64 m.p.h. at Albuquerque, New Mexico, raised clouds of dust reducing visibility to less than 200 yards. Precipitation totals over most of the West were less than 0.50 inches. Most of the area from California to the Continental Divide received no rain or only widely scattered light sprinkles. The western edge of the Great Plains averaged from 0.01 to 0.25 inches. Further east, totals ranged generally from 0.50 to 2.00 inches with a few spots receiving over 4 inches. One of the largest totals 5.18 inches fell at Evansville, Indiana. Weather of the week continued on page 451.

## SPECIAL INSECTS OF REGIONAL SIGNIFICANCE

**ARMYWORM (Pseudaletia unipuncta)** - KANSAS - Larvae up to three-fourths grown ranged 3-5 per square foot in downed wheat in Osborne County, 1-2 in field in Cloud County, and 2-4 in field in Smith County. (Bell). MISSOURI - Larval counts in grass in northwest area declined sharply due to parasites and diseases. No economic infestations (4 or more larvae per square foot) observed. (Munson). NEBRASKA - Second to fifth instars in lodged winter wheat in Lancaster County; up to 5 per square foot in 3 fields checked, with little evidence of parasitism or disease. Activity will continue for 7-10 days. (Keith, Berogan). IOWA - Destroyed 25 acres of corn June 12 in planted minimum tillage field in Woodbury County. (Iowa Ins. Sur.). MINNESOTA - Few moths in blacklight traps, but no problems as of June 11. (Minn. Pest Rpt.). MICHIGAN - Light trap collections light, except in Allegan and Ottawa Counties where counts exceeding 100 per night common. (Newman). INDIANA - Small numbers of middle instars, about 2 per square foot, observed in grassy alfalfa and in unmowed roadside grasses in west-central and central districts. (Meyer). OHIO - Moth collections in blacklight traps increased slightly compared with last week. Daily collections decreased June 16 and 17 as compared with June 11-15. (Rings). Five additional counties reporting larvae but no estimate of damage given. Two no-till cornfields infested in Fayette County. (Grover, Blair). One field in Richland County infested. (McGrew, Blair). Larvae reported from Logan County. (Hufford, Blair). One report June 16 in Meigs and Coshocton Counties. (Blair). KENTUCKY - Larvae damaged corn at Larue County location; defoliation 30 percent. (Barnett). VIRGINIA - Still on rye in Floyd County. (Huddleston). Abundant and still damaging no-till corn in Washington, Smyth, Rockingham, Shenandoah, Franklin, and Caroline Counties. Some reports of difficulty in controlling armyworms on no-till corn, probably because larvae are large and rain diluted chemical within few hours after application. (Roberts). MARYLAND - Third to fourth instars continue to cause moderate to heavy damage to 4,000 acres of no-till corn in central areas. About 80 percent of most heavily damaged no-till corn sprayed past 10 days. Some controls applied from aircraft ineffective due to small volume of water applied with chemical. (U. Md., Ent. Dept.). PENNSYLVANIA - Moderate damage on no-till corn in Cumberland County June 10. (Tetrault). Damage varied 15-75 percent, larvae 0.75-1 inch long in Centre County. (Gesell).

**ARMY CUTWORM (Euxoa auxiliaris)** - NORTH DAKOTA - Larvae destroyed 35-acre field of beets and 15 acres of 35-acre field near Crystal, Pembina County. (Kaatz).

**ASTER LEAFHOPPER (Macrostelus fascifrons)** - NEW YORK - Ranged 9-185 per 500 sweeps of small grain near Geneva, Ontario County. (N.Y. Wkly. Rpt., June 14).

**WISCONSIN** - Moving into lettuce and carrot fields. Populations less than 1970 at this time (which may be due to seasonal delay). Treatment underway. Populations averaged 2 per sweep in carrots in western Columbia County, about 1 per sweep in peppermint in Marquette County. Averaged 300-500 per 100 sweeps of small grain in La Crosse, Trempealeau, Chippewa, Eau Claire, and Dunn Counties. (Wis. Ins. Sur.).

**BEEF LEAFHOPPER (Circulifer tenellus)** - CALIFORNIA - Surveys in Panoche and Mendota, San Joaquin Valley area, revealed that although curly top occurrence low (averaged 1.5 percent), other viral damage heavy. Leafhoppers in these fields about 4 per 100 sweeps. Surveys near Coalinga, Fresno County, showed high percentage of curly top; 25-30 percent not uncommon. In Kern County, tomatoes, beans, peppers, melons, as well as sugarbeets, show only occasional curly top virus. Russian thistle acreage becoming noticeable. (Cal. Coop. Rpt.). COLORADO - Counts range 0-0.4 per square foot in Delta and Mesa Counties. (Bulla).

**CORN EARWORM (Heliothis zea)** - DELAWARE - First adult in Bridgeville, Sussex County, blacklight trap June 12; averaged one per 2 nights in Georgetown light trap. (Burbutis, Lesiewicz). NORTH CAROLINA - Damage ranged 1-5 percent of plants in most corn in Columbus, Bladen, Sampson, and Duplin Counties. Damaged 27 percent of plants in Columbus County field. (Hunt, June 11). SOUTH CAROLINA - Infestation and damage heavy to corn in Allendale County field. Infestation 50 percent in some

fields. (Brewer). MISSISSIPPI - Damage moderate to light to corn in Bolivar County. (Sartor, June 11). TENNESSEE - Light feeding in whorls of corn in all sections. Very little damage. (Gordon). ARKANSAS - Moths 99 on 0.5 mile corn row nearing tassel stage, 23 observed on 0.5 mile row of sorghum 18 to 24-inches high in Lonoke County. (Boyer). TEXAS - Medium on late corn in Burleson County; 25-30 percent of whorls infested. Numerous eggs detected on silks. (Green).

CORN LEAF APHID (Rhopalosiphum maidis) - NEVADA - Ranged 0-100 per stem on Vale barley at Lovelock, Pershing County; heaviest populations spotted but increasing rapidly. Parasites and predators at very low levels. About 4,000 acres treated or to be treated. (Stitt). TEXAS - Light on grain sorghum in Brazos and Burleson Counties. (Green). OKLAHOMA - Moderate on sorghum in Cotton and Ottawa Counties. (Okla. Coop. Sur.).

GREENBUG (Schizaphis graminum) - NEW MEXICO - Moderate to heavy on sorghum in Dona Ana County. (N.M. Coop. Rpt.). TEXAS - Populations building up in some areas on grain sorghum. Ranged 96-936 per 15 leaves of grain sorghum in Burleson County. Other fields in area ranged from no colonies to average of 1 colony per plant. Light in Collin County, medium to heavy in Ellis County. (Randolph, et al.). COLORADO - Infestations heavy in some young sorghum in Mesa County, required controls. Ranged 10-30 per plant, most other grains advanced and counts light. (Bulla). NEBRASKA - Infestations in milo reported in southern area from Cass County to Dundy County. Controls underway. (Roselle). KANSAS - Occasional economic population found on seedling sorghum in north-central, northwest, and west-central districts; absent or very light in southeast, south-central, northeast, and east-central districts. Sorghum 5-12 inches high in south-central, northeast, and east-central, and 2-7 inches in north-central, northwest, and west-central districts. In some fields in north-central, northwest, and west-central districts, greenbugs common in terminals and crotches of upper leaves as well as on undersides of lower leaves. Much yellowing of terminal leaves (between veins) found in fields where large numbers present in terminals. (Bell).

POTATO LEAFHOPPER (Empoasca fabae) - WISCONSIN - Very light but first nymphs of season noted in alfalfa in northeastern Columbia County. Adults light in commercial potatoes in Marquette County. (Wis. Ins. Sur.). INDIANA - Adults ranged 0-5 per sweep in few alfalfa fields where second growth tall enough to support populations in west-central and central districts. (Meyer). Adults ranged 0-1 per linear foot (averaged less than 1 per yard) in west-central and central district soybeans; plants 2-7 inches high except one field 13 inches high. No nymphs observed in soybeans. (Meyer). OHIO - Growers in drought areas should expect problem. Number of adults per sweep by county: Warren 4, Erie 1. (Rings).

SPOTTED ALFALFA APHID (Therioaphis maculata) - NEW MEXICO - Light to heavy in Roswell area, Chaves County; ranged 10-100 per 25 sweeps. (Mathews). COLORADO - Adult counts less than 1 per sweep in Lucerne area of Weld County. (Simpson). WISCONSIN - Common in most alfalfa; averaged about 4 per sweep along margins with about 50 percent winged forms. (Wis. Ins. Sur.).

TOBACCO BUDWORM (Heliothis virescens) - NORTH CAROLINA - Surveys of 20 tobacco fields scattered throughout Lenoir, Pitt, Craven, Edgecombe, and Wilson Counties indicate infestations approaching economic proportions. Counts in Columbus County remain very heavy in many fields. (Hunt, June 11). Survey indicates decline in number of budworms in Columbus County area. Of 10 fields checked, only one infested in excess of 10 percent of plants. A 30-percent infestation not uncommon 14 days ago. (Bradley). SOUTH CAROLINA - Moderate damage to tobacco fields in Darlington, Clarendon, and Williamsburg Counties. (Benton).

HORNWORMS (Manduca spp.) - DELAWARE - First adults in blacklight traps in Sussex County. (Burbutis, Lesiewicz). OKLAHOMA - First small larvae of season found on home garden tomatoes in Payne County. (Okla. Coop. Sur.). TEXAS - Small larvae of M. quinquemaculata (tomato hornworm) on tomatoes in St. Larence area of Glasscock County. (Neeb).



## CORN, SORGHUM, SUGARCANE

EUROPEAN CORN BORER (*Ostrinia nubilalis*) - NEW YORK - Abundant in Hudson Valley area June 12. (N.Y. Wkly. Rpt.). MASSACHUSETTS - Eggs deposited on corn in Worcester and Hampshire Counties. (Marini, Melnick). NEW JERSEY - Much egg laying observed in many Burlington County fields. Several egg masses reported hatched June 13. (Ins.-Dis. Newsltr.). DELAWARE - Adults averaged 5 per night in Sussex County. (Burbutis, Lesiewicz). MARYLAND - Egg laying continues state-wide. First instars light in Talbot, Caroline, Dorchester, and Wicomico Counties. (U. Md., Ent. Dept.). NORTH CAROLINA - Larvae damaging sweet corn in Roberson and Richmond Counties. Small plots show 90+ percent of plants infested. (Williford et al.). MISSISSIPPI - First generation heavy in corn in Marshall County. (Sartor). KENTUCKY - Egg masses on corn hatched in Union County. (Barnett). MISSOURI - Counts in corn 30+ inches tall in northwest area showed 18-49 percent of plants with leaf feeding. Ranged 2-10 (mostly first and second instar) per infested plant. (Munson). NEBRASKA - Adult emergence increasing rapidly in central area, numerous in field margins. Egg masses in several fields in Platte and York Counties. (Vobril). IOWA - Infestation ranged 10-100 percent in Clarke, Lucas, Monroe, Wapello, Jefferson, Van Buren, Lee, Henry, Washington, Johnson, Linn, and Tama Counties June 15-16. At Ankeny June 17, pupation 98 percent, emergence 74 percent, 3.5 percent of plants infested, and 74 percent of females taken in light traps mated. (Iowa Ins. Sur.).

MINNESOTA - *O. nubilalis* moth emergence, egg laying, and egg hatch observed in south-central and southwest districts. Egg masses and small first instars on corn ranging 12-26 inches high (extended leaf height). Pupation averaged 76 percent in southwest district, 90 percent in central district. (Minn. Pest Rpt.). WISCONSIN - Moths increasing steadily in blacklight traps, eggs noted on corn in increasing numbers. Egg masses less than 4 per 50 plants in most southwestern, central, and west-central counties. Some leaf feeding detected in most advanced corn. (Wis. Ins. Sur.). MICHIGAN - Adult emergence increasing at Lenawee County and Livingston County blacklight stations. For week ending June 14, collected 232 specimens at Lenawee station. Males slightly outnumber females indicating peak emergence near. Egg masses found as far north as Montcalm County June 14. Egg hatch will begin soon. (Newman). ILLINOIS - Egg survey completed in 39 counties over State. Less than 10 percent of plants with egg masses. Larval populations noticeable only in traditionally heavily infested western and southwestern counties. Up to 20 percent of plants showed whorl feeding. (Ill. Ins. Rpt.). INDIANA - Neither eggs nor larvae observed on 30-inch corn north of Indianapolis in west-central and central districts. Larval feeding observed on less than 2 infested plants per 100 in same districts south of Indianapolis; no egg masses seen. (Matthew, Meyer). OHIO - Number of moths caught in blacklight traps June 11-17 half as numerous as same period in 1970 but 12 times higher than in 1969. (Rings).

BLACK CUTWORM (*Agrotis ipsilon*) - NORTH CAROLINA - Reports of 40+ percent plant destruction in milo field near Marshville, Union County. (Stacy et al.). MARYLAND - Larvae active throughout State. Heaviest infestations in Frederick County. Loss in 60 acres of corn about 3 percent. (U. Md., Ent. Dept.). OHIO - Damaging corn in Morrow County. (Stachler, Blair). WISCONSIN - Some damage reported to corn in Richland, Marquette, and Door Counties. (Wis. Ins. Sur.). NEBRASKA - Late instars in corn and milo in eastern areas. (Roselle).

STALK BORER (*Papaipema nebris*) - OHIO - Damaging corn in Fayette County. (Blair, Grover). KENTUCKY - Larvae damaged corn in Ballard County. (Barnett). NORTH CAROLINA - Larval damage 5-10 percent in 0.5 acre of 10-acre cornfield near Lillington, Harnett County. (Hunt). MARYLAND - Third instars damaged 1 percent of 50-acre no-till cornfield near Kemptown, Frederick County. (U. Md., Ent. Dept.).

SUGARCANE BEETLE (Euetheola rugiceps) - ALABAMA - Damage to corn continues heavier than previous years in southern areas. Killed 62 percent of 8-inch plants in 50 acres of corn and another 50 acres estimated equally infested on same farm in Blount County. (Green). Adults 12 per 50 row feet of corn in 15-acre field in Jefferson County. (Smith). Damaged large field of corn in Perry County. (Barnett, Harriston). Destroyed 45 percent of 8-acre field in Monroe County. (Lemons, June 11).

SOUTHWESTERN CORN BORER (Diatraea grandiosella) - MISSISSIPPI - First generation moderate in corn in Oktibbeha County. (Sartor).

CHINCH BUG (Blissus leucopterus leucopterus) - OKLAHOMA - Heavy in sorghum in Cotton County. Damaging seedling sorghum in Garfield County. (Okla. Coop. Sur.). TEXAS - Infested grain sorghum in Denton, Hunt, and Delta Counties. Heavy numbers killed some grain sorghum in Denton County. (Turney).

SPIDER MITE (Oligonychus stickneyi) - FLORIDA - Problem on 300 acres of field corn near Ocala, Marion County. (Thorson).

#### SMALL GRAINS

PALE WESTERN CUTWORM (Agrotis orthogonia) - MONTANA - Larvae infested several thousand acres of wheat and barley in Cascade County. Infested 80 acres of barley at Helena, Lewis, and Clark County, and 30 acres near Townsend, Broadwater County. (Pratt, June 11).

HESSIAN FLY (Mayetiola destructor) - MARYLAND - Larvae of this species and Meromyza americana (wheat stem maggot) damaged 70 percent of 55 acres of wheat near Clagettsville, Montgomery County. Puparia of both species present. M. americana accounted for 80 percent of wheat head losses. (U. Md., Ent. Dept.).

BROWN WHEAT MITE (Petrobia latens) - NEVADA - Heavy on 25 acres of barley cover crop for alfalfa at Lovelock, Pershing County. (Stitt).

#### TURF, PASTURES, RANGELAND

WESTERN TENT CATERPILLAR (Malacosoma californicum) - OREGON - Light to moderate on bitterbrush in central Jefferson County. About 30 percent of plants examined at one locality 1-5 active tents per bush. Two percent of bushes completely defoliated. Tents also noted along highway north of Bend, Deschutes County. Late instars present. (Penrose).

MEADOW PLANT BUG (Leptopterna dolabratus) - MISSOURI - Adults collected in Sullivan and Linn Counties. These are new county records. (Munson).

#### FORAGE LEGUMES

ALFALFA WEEVIL (Hypera postica) - IDAHO - Adults 15 per 50 sweeps of alfalfa on experimental station at Aberdeen, Bingham County, June 4. Leaves showed general larval feeding June 11. (Carpenter). NEVADA - Larvae and damage heavy at Hualapai Valley, Washoe County. (Pursel). UTAH - Light to conspicuous injury on some alfalfa in Delta and Sutherland area of Millard County. Counts light in treated fields; 25 percent of alfalfa treated before first harvest. In heaviest fields, larvae 50-250 in 10 sweeps plus overwintered adults, with 500-800 in 10 sweeps in damaged field at Deseret "Bogs" area. (Davis et al.). Injury increasing with warmer days at Richmond, Cache County (Thornely) and elsewhere (Knowlton). WYOMING - Adults ranged 8-30 (averaged 16) per 10 sweeps in 3 alfalfa fields in Park County June 9; larvae 9-300 (averaged 108). (Burkhardt). Adults ranged 1-23 and larvae 5-900 per 10 sweeps of alfalfa in Fremont, Hot Springs, Washakie, Big Horn, and Park Counties. Average per 10 sweeps by county: Fremont 89 larvae, 17 adults; Hot Springs 55 larvae, 3 adults; Washakie 386 larvae, 13 adults; Big Horn 480 larvae, 10 adults; Park 179 larvae, 8 adults. Damage heavy in few fields in Big Horn County. Many fields mowed. (Parshall, Lawson). COLORADO - Larvae light

to moderate, ranged 10-50 per 100 sweeps in Delta, Mesa, and Montrose Counties. (Bulla). OKLAHOMA - Adults light on alfalfa in McCurtain County and white sweet-clover in Pushmataha County for new county records. Alfalfa weevil now collected from all 77 counties since first discovered in east-central area in 1968. (Okla. Coop. Sur.). NEBRASKA - Hypera postica adults averaged 1.38 and larvae 117.5 per 100 sweeps in 24 alfalfa fields in Dawson County. Unusually heavy populations, larvae up to 316 in most second-growth alfalfa. Light feeding noticeable. (Manglitz). None found in field surveyed in Brown County near Ainsworth in 200 sweeps. Rain hindered surveying other fields. (Gary, Beland, June 12). One adult found in Butler County; 200 sweeps in each of 6 fields surveyed. This is a new county record. (Stevens). One larva found 0.5 mile south of Taylor in Loup County. This is a new county record. (Manglitz). None found in 200 sweeps in field east of Burwell, Garfield County, or in 3 fields in Valley County. (Manglitz). Total of 23 counties found infested to date. (Keith). MISSOURI - Collections made in Nodaway and Holt Counties. These are new county records. Alfalfa weevil now recorded in all counties. (Munson). MINNESOTA - Larval counts of 1-2 per 300 sweeps of alfalfa in Olmsted, Steele, Dodge, Mower, Faribault, Waseca, and Goodhue Counties. Few adults in some counties. These are new county records. (Minn. Pest Rpt., June 11). Following new counties found infested: Washington, Dakota, Scott, Carver, Blue Earth, and Le Sueur Counties. Spread now includes entire southeast corner of State. Expect no problems this year. (Minn. Pest Rpt.).

IOWA - H. postica larvae ranged 1 per 200 sweeps to 6 per 150 sweeps in Hardin, Hamilton, Webster, and Greene Counties for new county records. Collected by G. Wallerich, June 7, 1971. Determined by B. Stoltzfus. (Iowa Ins. Sur.). WISCONSIN - Adults emerging in western Dane County, up to 5 per sweep in uncut field, larvae 20 per sweep. Larvae 10 per sweep in adjacent field. Counts 2 per 10 sweeps in Outagamie, Dodge, and La Crosse Counties; 1 per sweep in Green Lake and Fond du Lac Counties; 2-4 per sweep in Waupaca, Waushara, and Columbia Counties; and 20 per sweep in parts of Dane and Sauk Counties. Populations should continue to decrease as more enter pupation. (Wis. Ins. Sur.). MICHIGAN - Damage rapidly increasing in Osceola County, especially in new seedlings; some spraying underway. (Kirch). Alfalfa plots in Ingham County, left unprotected, now (early bloom stage) with 50-100 larvae per sweep. This is 4 to 5-fold increase since early bud stage. (Ruppel). INDIANA - Larvae noneconomic in some second-growth alfalfa in southern portions of west-central and central districts. (Meyer).

KENTUCKY - H. postica adults averaged 10 per 100 sweeps of alfalfa in Nelson County. (Barnett). OHIO - Less than 5 eggs per square foot in Erie County. Larval counts per sweep by county: Warren 2, Wayne 13, Erie 1. New adults present in southern counties. (Flessel). MARYLAND - Activity decreasing rapidly. Pupation underway in all sections of State. (U. Md., Ent. Dept.). NEW JERSEY - Larvae "ragging" leaves of alfalfa in northern counties, especially where inclement weather delayed cutting. (Ins.-Dis. Newsltr.). MASSACHUSETTS - Adults averaged 12 and larvae 1,207 per 100 sweeps in Berkshire County alfalfa fields. (Miller). NEW YORK - Damage light to first-cutting alfalfa, eggs numerous in field. (N.Y. Wkly. Rpt., June 14). VERMONT - Light in Windsor County, development later than past years. Larvae 1 per 2 sweeps in most areas June 9. (Nielsen).

PEA APHID (Acyrtosiphon pisum) - NEVADA - Ranged 3-5 per sweep on seed alfalfa at Lovelock, Pershing County, except for 20-acre field with 300-500 per sweep. (Stitt). WYOMING - Ranged 6-40 (averaged 23) in alfalfa in Park County June 9. (Burkhardt). Ranged 0-80 (averaged 37) in alfalfa of Fremont, Hot Springs, Washakie, Big Horn, and Park Counties. (Parshall, Lawson). COLORADO - Increasing, ranged 500-5,000 per 100 sweeps of alfalfa prior to first cutting in Delta, Mesa, and Montrose Counties. (Bulla). OKLAHOMA - Averaged 120 per 10 sweeps of alfalfa in southern McCurtain County. (Okla. Coop. Sur.). KANSAS - Averaged 10 per 10 sweeps in field of 12-inch alfalfa in Ellsworth County. (Bell). INDIANA - Ranged 0-5 per sweep in second-growth alfalfa in west-central and central districts. (Meyer). MASSACHUSETTS - Averaged 98 per 100 sweeps of alfalfa in Berkshire County field. (Miller).

ALFALFA LOOPER (Autographa californica) - WASHINGTON - Adults ranged 1-1,675 (averaged 141) per pheromone trap in 600-square-mile area around Walla Walla June 3-8. Numbers heavy enough to cause abandonment of some fields, particularly in peas. (Halfhill). OREGON - Larvae averaged 2 per sweep in central Jefferson County alfalfa; adults averaged 1 per sweep. Larvae averaged 10 per sweep (early instars dominant), adults 1 per sweep in Klamath County. (Penrose). NEVADA - Early instars averaged 5 per sweep on 100 acres of alfalfa at Orovada, Humboldt County. (Rowe).

LYGUS BUGS (Lygus spp.) - WYOMING - Adults and nymphs averaged 22 per 10 sweeps of alfalfa in Fremont, Hot Springs, Washakie, Big Horn, and Park Counties. (Parshall, Lawson). KANSAS - Averaged 4 per 10 sweeps in field of 12-inch alfalfa in Ellsworth County. (Bell). NEW MEXICO - Generally light in most fields at Roswell, Chaves County; adults 5-8 and nymphs 8-15 per 25 sweeps. (Mathews). OKLAHOMA - L. lineolaris (tarnished plant bug) mostly adults, averaged 14 per 10 sweeps in McCurtain County alfalfa. (Okla. Coop. Sur.).

MEADOW SPITTLEBUG (Philaenus spumarius) - MASSACHUSETTS - Nymphs averaged 61 per 100 sweeps in Berkshire County alfalfa field. (Miller). WISCONSIN - Adults appearing in alfalfa in western Dane County. (Wis. Ins. Sur.).

THREECORNERED ALFALFA HOPPER (Spissistilus festinus) - OKLAHOMA - Adults averaged 8 per 10 sweeps of alfalfa in McCurtain County. (Okla. Coop. Sur.).

ALFALFA PLANT BUG (Adelphocoris lineolatus) - WISCONSIN - Nymphal populations vary from field to field, ranging 3-12 per sweep in west-central area, 5-10 in Fox River Valley area, and 30-50 in sandy soiled regions. Adult development slow. (Wis. Ins. Sur.).

LEAFMINER FLIES (Agromyza spp.) - NEW YORK - Damaging alfalfa in lower Hudson Valley. Heaviest damage in Dutchess County. In this area leafminer flies more important than Hypera postica (alfalfa weevil). (N.Y. Wkly. Rpt., June 14).

GRASSHOPPERS - WISCONSIN - Melanoplus spp. first and second instars becoming noticeable in alfalfa in scattered areas of State. Averaged 1 per sweep in Buffalo County, up to 6 per sweep in Portage County. (Wis. Ins. Sur.). INDIANA - Early nymphs common in alfalfa and roadsides in west-central and central districts. (Meyer). KENTUCKY - Nymphs and adults averaged 265 per 100 sweeps of alfalfa in Nelson County. (Barnett).

## SOYBEANS

MEXICAN BEAN BEETLE (Epilachna varivestis) - NORTH CAROLINA - Buildup beginning in Green, and Craven Counties. About 15 percent defoliation on 6 inch plants in some fields. (Johnson, Hunt, June 11). SOUTH CAROLINA - Damage reported in Orangeburg County. (Thomas). Counts and damage light in Horry County. (Witherspoon). MARYLAND - Adults continue to lay eggs on soybeans in Wicomico, Worcester, and Dorchester Counties. Most fields averaged less than 1 per 10 row feet. (U. Md., Ent. Dept.).

BEAN LEAF BEETLE (Cerotoma trifurcata) - NORTH CAROLINA - Buildup in southwestern Piedmont area. Defoliation 15-20 percent in some fields, adults 1 per 3 plants in 8 fields checked on 2- to 4-inch plants. (Hunt). NEBRASKA - Adults numerous, some foliage damage to soybeans and garden beans in eastern area. (Roselle). OKLAHOMA - Very light (1 or 2 per 10 linear feet) in McCurtain County soybeans. (Okla. Coop. Sur.).

SEED CORN MAGGOT (Hylemya platura) - OHIO - Damaged soybeans in Butler County on June 17. (Sleesman).

THREECORNERED ALFALFA HOPPER (Spissistilus festinus) - OKLAHOMA - Ranged 1-2 per linear foot of soybeans in southern McCurtain County. (Okla. Coop. Sur.).

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - GEORGIA - Heavy in several southern fields. (Todd, June 12).

## COTTON

BOLL WEEVIL (Anthonomus grandis) - TEXAS - Weevils found in 4 of 32 treated fields in McLennan and Falls Counties; averaged 8 (maximum 62) per acre. Found in 3 of 10 untreated fields; averaged 30 (maximum 418) per acre. Collected 64 weevils on pheromone traps; total to date 2,147 compared with 127 caught through June 11, 1970. None taken on flight screens this period. (Cowan et al.). For boll weevil on High Plains see page 457. ARKANSAS - Weevils on pheromone-baited wing traps by county: Conway 10 (traps 10), Chicot 3 (traps 12), Lincoln 27 (traps 8) on June 14, 15. Heaviest overwintered weevil count 6 on 200 terminals in southeast area. (Boyer). LOUISIANA - In Madison Parish, recovered 63 weevils from 20 nonsticky traps and 127 from 4 sticky traps. Recovered 275 weevils from 10 wing traps adjacent to ground trash collection sites. Recovered 159 weevils on 126 wing traps on island in Mississippi River. Recovered 29 weevils from 40 wing traps (24 hours after baiting) adjacent to 12 to 15-acre field. Weevils found in 2 of 7 fields checked by row-foot method; 32.5 per acre in one field, 65 in other field. (Cleveland). MISSISSIPPI - Found in 1 of 4 fields inspected in delta counties; averaged 65 per acre. In pheromone-baited wing traps, 9 taken in Washington County total to date 38 and 104 in Bolivar County (total to date 1,154). (Pfrimmer et al.). Averaged 16 weevils per acre in 4 fields in Washington County. (Sartor). ALABAMA - Live weevils emerging from hibernation in north area heavier than 1970, numbers found in fields generally light except in few isolated areas. (McQueen). GEORGIA - Adults puncturing squares in older cotton throughout south areas. (Womack, June 12). NORTH CAROLINA - Sex-lure traps in Northampton County indicate heavier overwintering population than 1970. About 800 weevils caught in 90 traps. (Bradley, June 11).

BOLLWORMS (Heliothis spp.) - TEXAS - In McLennan and Falls Counties, eggs averaged 1.3 and larvae 0.3 per 100 terminals in 32 treated fields; maxima of 13 eggs and 5 larvae. In 10 untreated fields; eggs averaged 0.6 and larvae 0.1, with maxima of 1 egg and 0.3 larvae, per 100 terminals. Injured squares average 1.9 percent in 5 treated fields. Larvae previously collected from various hosts other than cotton determined 77 H. zea; total to date 1,042 H. zea and 22 H. virescens. Two larvae from cotton determined H. virescens. Moths increased sharply in light trap. (Cowan et al.). LOUISIANA - Found in 2 of 7 fields checked by row-foot method in Madison Parish; averaged 32.5 per acre. Eggs found in 2 fields; 52 per acre in one field, 78 per acre in other field. (Cleveland). MISSISSIPPI - No eggs or larvae found in 4 fields checked in delta counties. (Pfrimmer et al.). ALABAMA - Occasional larvae and eggs observed in north area. Larvae and moths have occurred in smallest numbers in past 15 or 20 years. (McQueen). GEORGIA - Egg laying increased throughout south areas (Womack, June 12). SOUTH CAROLINA - Light infestation in 30 percent of field in Dillon County. Damage light. (Dubose).

TARNISHED PLANT BUG (Lygus lineolaris) - MISSISSIPPI - Averaged 5.5 per 100 row feet in 4 fields in Washington County; light in Bolivar County. (Sartor).

## SUGAR BEETS

SUGARBEET ROOT MAGGOT (Tetanops mayopaeformis) - WYOMING - Fly counts increased sharply in Heart Mountain area, Park County, June 11; 37-50 per trap day. Oviposition continues; eggs on 30-100 (average 56) percent of plants. (Burkhardt). Damage appearing in fields of Washakie and Big Horn Counties. Many plants dying. Larvae ranged 0-4 per plant. (Parshall, Lawson). NORTH DAKOTA - Trap collections indicate peak fly emergence occurred over 5-day period in Walsh and Pembina Counties. Fly counts in 25 traps at 5 separate locations totaled 1,970 during 5-day period compared to 9,400 trapped last year during one-day period. Egg laying general in infested areas in Pembina, Walsh, and Grand Forks Counties;

10-70 (average 30) percent of beet plants with egg masses. Egg masses have 3-50 (average 10) eggs per mass. (Kaatz). MINNESOTA - Surveys in Red River Valley area revealed heavy populations of adults and egg laying in beet fields near Robbin in Kittson County. Adults 60 per 100 paces noted. Adults and eggs also found in Clay County near Glyndon. In one field, counts along margins averaged 3 flies per plant while further into field counts dropped to less than one per plant. (Minn. Pest Rpt.).

BEET WEBWORM (Loxostege sticticalis) - WYOMING - Adults active in Powell area, Park County, June 11. Moths ranged 0-5 per row yard. (Burkhardt). Adults laying eggs in Fremont, Hot Springs, Washakie, Big Horn, and Park Counties. Moths ranged 0-33 per 50 yards of row; eggs 0-10 per plant. Few larvae appearing in Washakie County; up to 7 per plant. (Parshall, Lawson). UTAH - Adults common but light, in Millard, Box Elder, and Cache County fields. (Knowlton).

SPINACH LEAFMINER (Pegomya hyoscyami) - WYOMING - Eggs and larvae in several fields in Park County June 11. Infested leaves ranged 0-10 percent. (Burkhardt). Infested leaves ranged 0-25 percent in fields in Fremont, Hot Springs, Washakie, Big Horn, and Park Counties; eggs up to 24 per leaf. (Parshall, Lawson).

SUGARBEET WIREWORM (Limonijs californicus) - IDAHO - First adult in flight found May 24. Collected 2 adults June 1 and 12 on June 7 on sticky traps at Aberdeen, Bingham County. (Carpenter).

#### POTATOES, TOMATOES, PEPPERS

COLORADO POTATO BEETLE (Leptinotarsa decemlineata) - IDAHO - Adults 4 and egg clusters 13 (no larvae) in 100 square foot area of untreated potatoes at Aberdeen, Bingham County. (Saad). UTAH - Populations still above normal in most areas infested during 1970. Earliest injury was to tomatoes, now common on potatoes. (Knowlton). NORTH DAKOTA - Adults 5-10 per 25 potato plants in Walsh, Pembina, and Grand Forks Counties. Egg masses 9 per 25 plants near Nash, Walsh County. (Kaatz). KENTUCKY - Larvae averaged 14 per plant on potatoes in Fayette County. (Barnett). TENNESSEE - Continue to cause minor damage to potatoes where controls applied. Heavy damage where no controls applied. (Gordon). NEW JERSEY - Adults and larvae caused noticeable damage to many plantings of eggplant. (Ins.-Dis. Newsltr.). NEW HAMPSHIRE - Adults 5 per plant on potatoes at New Boston, Hillsboro County, June 13. (Sears).

APHIDS - MAINE - In Aroostook County, winged migrants of Macrosiphum euphorbiae (potato aphid) abundant on rose and moving to early planted potatoes; Myzus persicae (green peach aphid) on wild plum, moving to potatoes and Aphis nasturtii (buckthorn aphid) colonies abundant on alder leaved buckthorn but no spring migrants observed. In Penobscot County, winged forms of M. euphorbiae and A. nasturtii taken in yellow pan traps. (Gall). NEW JERSEY - Potentially heavy population of M. persicae on eggplant indicated. Winged forms observed on potato leaves in several Burlington and Salem County fields. (Ins.-Dis. Newsltr.).

EUROPEAN CORN BORER (Ostrinia nubilalis) - MICHIGAN - Egg masses found on undersides of potato and corn leaves June 14 in Montcalm County. (Cress).

TOMATO PINWORM (Keiferia lycopersicella) - FLORIDA - Continuous problem since late May on tomatoes in Tampa Bay area; acting as leafminer and attacking fruit near stem end. (Maxwell). Problem on tomatoes in Holly Hill area, Lake County. (Strayer). TEXAS - Light to heavy on tomatoes in several locations in Brazos County. (Green).

VARIEGATED CUTWORM (Peridroma saucia) - NEBRASKA - Destroyed about 70 percent of leaves on 10 percent of 416 tomato plants in small truck farm in Lancaster County. Plants averaged 10 inches in height. (Keith, Berogan).

## BEANS AND PEAS

WESTERN YELLOWSTRIPED ARMYWORM (Spodoptera praefica) - IDAHO - Larvae spotty in pea growing area of Nez Perce County. About 50 percent last instar and devouring leaves and cutting stems, in dense areas counts of 15 per square yard. Controls applied to 4 fields to reduce damage to peas. (Allison et al.).

## COLE CROPS

IMPORTED CABBAGEWORM (Pieris rapae) - NEW JERSEY - Populations light to moderate on cabbage in several Burlington County fields. (Ins.-Dis. Newsltr.).

CABBAGE APHID (Brevicoryne brassicae) - NEW JERSEY - Light to moderate on cabbage in several Burlington County fields. (Ins.-Dis. Newsltr.).

GREEN PEACH APHID (Myzus persicae) - WASHINGTON - Building up on 15-20 acre field of mustard grown for seed near Othello, Grant County. (Powell).

## CUCURBITS

STRIPED CUCUMBER BEETLE (Acalymma vittata) - NEW JERSEY - Feeding evident in most cucumber plantings. (Ins.-Dis. Newsltr.). KENTUCKY - Adults, 4-5 per plant, damaged cucumbers in Jefferson County. (Barnett).

## GENERAL VEGETABLES

SPOTTED ASPARAGUS BEETLE (Crioceris duodecimpunctata) - WYOMING - Abundant on asparagus in Hot Springs, Washakie, and Big Horn Counties. (Parshall, Lawson). MAINE - Adults mating and laying eggs on asparagus in Orono, Penobscot County. (Gall).

CABBAGE MAGGOT (Hylemya brassicae) - WYOMING - Damaging radishes in Powell area, Park County. Most fields treated at planting and many being treated again. (Burkhardt).

VARIEGATED CUTWORM (Peridroma saucia) - NEBRASKA - Caused foliar damage to about 10 percent of onions in commercial fields in Colfax County. (Keith, Berogan).

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Weather of the week continued from 442.

**TEMPERATURE:** Pleasant temperatures prevailed most of last week in the Far Northwest and the Northeast. A warming trend continued over the Great Plains with afternoon temperatures in the low 90's most days. The hottest afternoons were in interior valleys of California and the southwestern deserts, where maximum temperatures exceeded 100°. Blythe, California, registered 116° Wednesday afternoon. Nighttime temperatures in the deserts were near 80°. In Texas, maximum temperatures reached the 90's on most days. A number of localities recorded 100° or higher on 1 or 2 afternoons. Mineral and Laredo registered 102° Tuesday. Hot weather occurred in the Southeast too. Augusta and Brunswick, Georgia, recorded 100° Tuesday afternoon. The lowest overnight temperatures at St. Petersburg and Miami, Florida, recorded Thursday morning were 77° and 79° respectively. High humidity combined with high temperature made weather feel oppressive in central and southeastern portions of the Nation. In the Southwest excessive heat made citizens uncomfortable although dew points and relative humidity were much lower than in the central and eastern portions of the Nation. The weekend brought a warming trend to the Northern States and a continuation of summer heat across the South Sunday afternoon. Temperatures reached the 80's from southeastern Washington to the western edge of the Great Plains. The Northeast warmed to the upper 80's and the low 90's. Hot weather continued in the southwestern deserts with maximums ranging from 100° to 109° from southeastern California across southern Arizona to southwestern New Mexico with 90° heat across southern Great Plains to the Atlantic coast.

## DECIDUOUS FRUITS AND NUTS

CODLING MOTH (Laspeyresia pomonella) - MARYLAND - Eggs hatched. Larval populations light in unsprayed apple orchards statewide. (U. Md., Ent. Dept.). MISSOURI - All stages in unsprayed apple orchards, 50+ percent of apples infested, in central area. (Craig). UTAH - Moths still emerging on warm evenings; taken in blacklight trap at Logan, Cache County. (Davis).

ORIENTAL FRUIT MOTH (Grapholitha molesta) - WASHINGTON - In unsprayed peaches on June 8; first summer generation infested 10 percent of shoots at Buena, Yakima County. (Johnson).

REDBANDED LEAFROLLER (Argyrotaenia velutinana) - MISSOURI - Numerous adults in unsprayed apple orchard in central area; egg laying underway; expected to be troublesome later. (Craig).

PEACHTREE BORER (Sanninoidea exitiosa) - MARYLAND - Adults laying eggs throughout State. Controls necessary in all areas where peaches grown. (U. Md., Ent. Dept.). NEW MEXICO - Light to heavy at Coralles, Sandoval County, and Albuquerque, Bernalillo County. (Heninger). UTAH - Major problem in Box Elder County peach orchards this year. (Lindsay).

PLUM CURCULIO (Conotrachelus nenuphar) - MAINE - Increased with high temperatures of June 7-8; first fruit cutting began June 8. Some unsprayed Cortland apple fruits lightly cut during warm period. High temperatures brought adults into orchards; much fresh cutting evident June 13 on unsprayed trees. (Gall). MARYLAND - Egg laying scars damaged 75 percent of apples in 20-acre orchard in Hancock area, Washington County. (U. Md., Ent. Dept.). WISCONSIN - Feeding scars evident on apples in Dane and Iowa Counties but less severe than in 1970. (Wis. Ins. Sur.).

BLACK CHERRY APHID (Myzus cerasi) - COLORADO - Nymphs and adults heavy on sour cherries in Fort Collins area, Larimer County. Leaf curl showing; control will be necessary. (Thatcher). UTAH - Moderately severe in Brigham and Willard area of Box Elder County (Lindsay) and in Salt Lake County (Parrish).

WOOLLY APPLE APHID (Eriosoma lanigerum) - NEVADA - Heavy on apple at Las Vegas, Clark County. (Barton). NEW MEXICO - Light to moderate at Coralles, Sandoval County, and Mimbres, Grant County. Sprays being applied. (Heninger, Riddle).

PEAR PSYLLA (Psylla pyricola) - NEW YORK - Populations lower than comparable period during past 2-3 years in western areas. First adult noted June 9. (N.Y. Wkly. Rpt.).

OYSTERSHELL SCALE (Lepidosaphes ulmi) - MAINE - Overwintered eggs began to hatch June 4. Crawlers evident on infested apple trees. (Gall).

FRUIT FLIES (Rhagoletis spp.) - PENNSYLVANIA - First R. cingulata (cherry fruit fly) and R. fausta (black cherry fruit fly) emergence on cherry at Erie, Erie County, June 9. (Jubb). MICHIGAN - R. cingulata emergence and activity remains steady in southern areas. Peak emergence reached June 17. Indications that egg laying underway. (Thompson). MICHIGAN - Two R. fausta adults emerged June 11 in cages in northeast Grand Rapids. (Dreeves). OREGON - R. indifferens (western cherry fruit fly) adults noted in Medford area, Jackson County. (Berry).

EUROPEAN RED MITE (Panonychus ulmi) - MAINE - First summer eggs observed on apple June 3. Overwintered eggs hatched. Counts revealed eggs ranged 0.4-35.3 per leaf as of June 8. Adult populations generally less than one per leaf, but will quickly change when summer eggs hatch. (Wave, Stiles). MICHIGAN - Building up in many southern orchards. Close watch necessary to determine need for control. (Thompson).



PECAN NUT CASEBEARER (Acrobasis caryae) - TEXAS - Surveys conducted June 2-10 in El Paso, Hudspeth, Culberson, Jeff Davis, Presidio, Brewster, Pecos, Reeves, and Terrell Counties. Total of 2,500 pecan trees inspected. Infestations found at Sheffield and Iraan, Pecos County, and Sanderson, Terrell County. (Green et al.). OKLAHOMA - Eggs hatched, small larvae entered nuts in most areas; only light to moderate infestations reported. Heaviest report of 10-15 percent in Pontotoc County. (Okla. Coop. Sur.). GEORGIA - Damage moderate in several pecan groves, damage severe in one unsprayed grove in Mitchell County. (Lee, June 12).

FALL WEBWORM (Hyphantria cunea) - OKLAHOMA - Moderate on pecan trees in Pontotoc and Cleveland Counties. (Okla. Coop. Sur.).

EUROPEAN FRUIT LECANIUM (Lecanium corni) - NEW MEXICO - Heavy and spotted in Dona Ana County pecan orchards. Controls applied. (N.M. Coop. Rpt.).

## CITRUS

Insect Situation in Florida - Mid-June - CITRUS RUST MITE (Phyllocoptruta oleivora) infested 62 (norm 45) percent of groves; economic in 42 (norm 26) percent. Again decreased on leaves, increased on fruit; above normal on both. Population on fruit expected to enter high range in July, continue high into August. Highest districts, south, west, and north. CITRUS RED MITE (Panonychus citri) infested 80 (norm 63) percent of groves; economic in 47 (norm 38) percent. Above normal and in high range with further increase expected into July. Highest districts west, south, north, and central. TEXAS CITRUS MITE (Eutetranychus banksi) infested 77 (norm 69) percent of groves; economic in 54 (norm 47) percent. Above normal and in high range. Further increase in June will be followed by decrease in July. All districts high. GLOVER SCALE (Lepidosaphes gloverii) infested 92 (norm 86) percent of groves; economic in 25 (norm 30) percent. Near normal and in high range in all districts. Highest district south. Gradual decrease expected in July. PURPLE SCALE (L. beckii) infested 72 (norm 80) percent of groves; economic in 42 (norm 11) percent. CHAFF SCALE (Parlatoria pergandii) infested 50 (norm 70) percent of groves; economic in 3 (norm 15) percent. YELLOW SCALE (Aonidiella citrina) infested 35 (norm 68) percent of groves; economic in none (norm 11) percent. These 3 scales will remain below normal and at low or moderate level in all districts. BLACK SCALE (Saissetia oleae) infested 26 (norm 69) percent of groves; economic in 11 (norm 49) percent. Although population lowest for June since 1960, it will increase rapidly and enter high range in July. East district much higher than others. An ARMORED SCALE (Unaspis citri) infested 25 percent of groves; economic in 18 percent. This scale has erratic period of increase and decrease. Although only 25 percent of groves found infested in early June and 28 percent found infested in May, does not imply 3 percent of groves no longer harbor pest. Groves considered infested only if scales occur on specific areas of bark previously selected for examination. WHITEFLIES infested 77 percent of groves; economic in 23 percent. Population near normal; expected to be in high range through July. MEALYBUGS infested 31 percent of groves; economic in 6 percent. Will increase in June and July but not expected to reach high level normal for those months. (W.A. Simanton (Citrus Expt. Sta., Lake Alfred)).

## SMALL FRUITS

REDNECKED CANE BORER (Agrilus ruficolis) - WISCONSIN - Larvae caused wilting of raspberry terminals in Dane County. (Wis. Ins. Sur.).

WESTERN GRAPELEAF SKELETONIZER (Harrisina brillians) - ARIZONA - Heavy in many home plantings in Phoenix area. Many reports received in Maricopa County. (Ariz. Coop. Sur.).

## ORNAMENTALS

BAGWORM (Thyridopteryx ephemeraeformis) - NEBRASKA - Eggs hatching, first and second instars active on junipers in Lancaster County. (Roselle, June 14).

UNICORN CATERPILLAR (Schizura unicornis) - KANSAS - Caused heavy defoliation of purple leaf plum in nurseries in Wyandotte and Johnson Counties; defoliation complete of in one Johnson County nursery. (Bell).

MIMOSA WEBWORM (Homadaula anisocentra) - IOWA - Hatched on thornless honeylocust in Des Moines, Polk County, June 16; 50 percent of terminals with 5-10 larvae each. (Iowa Ins. Sur.). ALABAMA - First small larvae of season light on mimosa trees on Dolphin Island in lower Mobile County. (Seibels).

SPRUCE SPIDER MITE (Oligonychus ununguis) - FLORIDA - Infested all of 275 juniper plants (J. chinensis) examined in nursery at Thonotosassa, Hillsborough County. (Vaughan).

## FOREST AND SHADE TREES

SPRUCE BUDWORM (Choristoneura fumiferana) - MAINE - Mostly in sixth instar in Oxbow region of Aroostook County. (Leonard). NEW YORK - Light injury noted at Ithaca, Tompkins County. (N.Y. Wkly. Rpt., June 14). MICHIGAN - Full-grown larvae and pupae in Midland County. (Lund). CALIFORNIA - Heavy on Picea sitchensis at Crescent City, Del Norte County. (Cal. Coop. Rpt.).

JACK PINE BUDWORM (Choristoneura pinus) - MICHIGAN - Larvae numerous in staminate flowers of jack pine in northern Luce County. Probably second instar and 0.5-2 weeks behind those in Iron County. Neodiprion pratti banksianae (jack pine sawfly) and this pest present in Luce County, resulting in serious damage to jack pine. Sawfly colonies numerous, now in second instar. (Johnson).

EUROPEAN PINE SHOOT MOTH (Rhyacionia buoliana) - MICHIGAN - Pupae and late larvae seen June 17 in roadside planting of white pine in central Luce County. Winter survival apparently good. (Hanna).

SOUTHERN PINE BEETLE (Dendroctonus frontalis) - MARYLAND - Logging operations continue in Talbot, Dorchester, Wicomico, Worcester, and Somerset Counties where heavy tree mortality observed past winter. First-generation populations appear light to date throughout infested area. (U. Md., Ent. Dept.).

PINE SPITTLEBUG (Aphrophora parallela) - MICHIGAN - Nymphs within spittle common in many areas of State particularly on Scotch pine. Nymphal control difficult because spittle gives good protection. Control adults during late July. (Wallner). TENNESSEE - Heavy on Scotch pine in Cumberland County. No apparent damage. (Hammett).

CONIFER SAWFLIES (Neodiprion spp.) - TENNESSEE - N. taedae linearis defoliating loblolly pines in Tennessee Ridge area of Houston County. This is a new county record. (Lewis, Mullett). MARYLAND - N. lecontei (redheaded pine sawfly) heavy on 1 acre of loblolly pine at Crisfield, Somerset County. Controls applied. (U. Md., Ent. Dept.).

SADDLED PROMINENT (Heterocampa guttivitta) - MAINE - Larvae feeding on beech and oak in southwestern area. Some moths still laying eggs. (Dearborn).

A NOTODONTID MOTH (Symmerista canicosta) - MICHIGAN - Heavy adult activity reported from Newaygo and Muskegon County. (Rushmore, Ferris). In East Lansing, high percentage of caged specimens emerged. Difficult to predict larval abundance from moth flights, but populations may be troublesome. (Wallner). About 50 percent of adults have emerged and laying eggs (masses of 50-75 eggs each). Egg masses found everywhere including sides of buildings. (Eiber).

A TORTRICID MOTH (Argyrotaxa semipurpurana) - MICHIGAN - Common during past 3 years in far eastern part of Upper Peninsula. Damaged about one-third of foliage in infested stands this year. Larvae hanging from webbing, feeding almost complete. Pupation should occur shortly. (Johnson).

SPRING CANKERWORM (Paleacrita vernata) - NEBRASKA - Defoliating windbreak and ornamental plantings of Siberian elms in large portion of north-central area. (Roselle).

ELM LEAF BEETLE (Pyrrhalta luteola) - ARKANSAS - First-generation larvae heavy on Chinese elm in Washington County. Infestations as heavy or heavier than ever noted for first generation; 50 percent or more of leaves on many young elms already brown. (Boyer). KANSAS - First generation pupating in Shawnee, Riley, and Sedgwick Counties. Infestations very heavy on Chinese elms in Riley and Sedgwick Counties; up to 30 percent of leaf surface skeletonized on some elms in Manhattan, Riley County. (Bell). ARIZONA - Heavy feeding on foliage of Chinese elms at Payson, Pine, and Strawberry, Gila County, and Black Canyon City, Camp Verde, and Page Springs, Yavapai County. (Ariz. Coop. Sur.).

SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) - TENNESSEE - Specimens collected from Greene County for a new county record. (Pless).

COTTONY MAPLE SCALE (Pulvinaria innumerabilis) - IDAHO - New and severe infestation reported in Moscow, Latah County. (Barr). Adults extremely abundant on several maples in one location. Sedentary adult forms ranged 15-20 per inch of twig. (Gittins).

#### MAN AND ANIMALS

SCREWWORM (Cochliomyia hominivorax) - Total of 2 cases reported in U.S. June 13-19, 1971: TEXAS - Hidalgo, Terrell. Total of 103 laboratory-confirmed cases reported in portion of Barrier Zone in Republic of Mexico as follows: Sonora 6, Chihuahua 28, Coahuila 2, Nuevo Leon 9, Tamaulipas 58. Total of 27 cases reported in Mexico south of Barrier Zone. Barrier Zone is area where eradication operation underway to prevent establishment of self-sustaining population in U.S. Sterile screwworm flies released: Texas 44,472,000; Arizona 3,310,000; Mexico 102,538,000. (Anim. Health Div.).

NORTHERN CATTLE GRUB (Hypoderma bovis) - WISCONSIN - Adults severely annoying cattle on hot days in some areas. Running pastured cattle in Buffalo, Trempealeau, and Eau Claire Counties. (Wis. Ins. Sur.).

SHEEP BOT FLY (Oestrus ovis) - INDIANA - Peak larval expulsion occurred April 3. Adults first appeared in large numbers June 14 in large flock of sheep in Warren County. (Chandler).

FACE FLY (Musca autumnalis) - CALIFORNIA - Annoying to man in sunny, wind sheltered areas of Briones Regional Park, Orinda, Contra Costa County, June 1. No cattle in immediate area. Both sexes present, but females more persistent being especially attracted to scratches on skin. (Cal. Coop. Rpt.).

MOSQUITOES - CALIFORNIA - Populations and complaints increased. Results of very hot weather, excessive watering of yards, and warm nights accelerating problem in populated areas. (Cal. Coop. Rpt.). UTAH - Very troublesome throughout Delta, Deseret, and Sutherland area of Millard County (Davis, Knowlton); in Locomotive Springs and Kelton area (Knowlton, Sazama) and many farming areas of Box Elder County (Knowlton, Lindsay); upper Skull Valley and Dolomite, Tooele County (Knowlton). Fogging underway at Logan, Cache County. (Davis, Knowlton). Numerous Aedes vexans and some A. dorsalis annoying at Logan. (Roberts). Mosquitoes annoying in Nephi area, Juab County. (Knowlton). WYOMING - Heavy and annoying to man and animals in Hot Springs, Washakie, Big Horn, and Park Counties. (Parshall, Lawson). NEBRASKA - Larvae ranged up to 30 per dip in seepage areas along North

Platte River in Scotts Bluff County. (Hagen). Many reports of severe annoyance along Platte and North Platte River Valleys. (Keith). OKLAHOMA - Larvae ranged up to 30 per dip in Payne County; adults becoming common in some areas. (Okla. Coop. Sur.). MINNESOTA - Larval collections totaled 491, with Aedes vexans in 62.1 percent, Culiseta inornata in 29.5 percent, Culex restuans in 29.7 percent. Light trap catches totaled 5,399; A. vexans comprised 72.3 percent, A. abserratus 11.9 percent, C. restuans 4.7 percent, and balance, (23 other species). Dramatic and substantial increase in light trap catches and bite collections noted June 11-13. (Minn. Pest Rpt.). WISCONSIN - Annoyance to livestock and humans severe in vicinity of Wisconsin River in Richland Columbia, Iowa, and Sauk Counties, and in some northern lake districts. In most other areas, mosquitoes absent or present in moderate numbers. (Wis. Ins. Sur.).

HORN FLY (Haematobia irritans) - UTAH - Numerous on cattle at Richmond, Cache County (Thornley), and some Davis and Weber County herds (Knowlton, Boyer). Some controls applied. (Knowlton). OKLAHOMA - Averaged 1,500 per head on cows and ranged 2,500-3,000 per head on bulls in Payne County. Moderate to heavy on cattle in Cotton, Bryan, Cleveland, and Hughes Counties. (Okla. Coop. Sur.). MISSISSIPPI - Average count per head of cattle and number of animals checked by county: Chickasaw 30 (1,500), Monroe 150 (500), and Oktibbeha 200 (100). (Sartor, June 11). Currently averaged 125 per animal on 100 head of cattle in Adams County, 150 per animal on 500 head in Monroe County. (Sartor). IOWA - Ranged 0-25 (average 6.5) per side on untreated herd of beef cows in Story County June 17. (Iowa Ins. Sur.). VERMONT - Ranged 30-35 per head on livestock in Chittenden County. (Nielsen).

STABLE FLY (Stomoxys calcitrans) - WISCONSIN - Annoyance to cattle ranged moderate to severe in St. Croix, Walworth, Calumet, Jefferson, and Sauk Counties; light in Columbia, Oconto, Outagamie, Polk, Rock, and Chippewa Counties. (Wis. Ins. Sur.). OKLAHOMA - Averaged 3 per head on dairy cattle in Payne County. (Okla. Coop. Sur.).

BLACK FLIES (Simulium spp.) - OKLAHOMA - Heavy feeding in ears of horses in Cherokee County. (Okla. Coop. Sur.). NEBRASKA - Heavy in Scotts Bluff, Morrill, and Garden Counties. One report of chickens killed near Bayard, Morrill County, due to feeding. (Hagen). NEVADA - Adults heavy, especially along Humboldt River in Humboldt and Pershing Counties, biting and annoying man. (Martinelli, Rowe, Stitt).

TABANID FLIES - VERMONT - Primarily Hybomitra lasiophthalma ranged 10-15 per head on cattle in Chittenden County. (Nielsen). OKLAHOMA - Tabanus atratus (black horse fly) averaged 1 per head and T. equalis 0.5 per head on cattle in favorable areas of Payne County. Chlorotabanus crepuscularis averaged 0.1 per head. Several species, including T. americanus, T. sulcifrons, and Chrysops sp. (a deer fly) common in recreation areas of McCurtain County. (Okla. Coop. Sur.). UTAH - T. atratus and Chrysops discalis active in "Bogs" area near Deseret, Millard County (Knowlton, Davis); annoying horses at Corrine, Box Elder County (Knowlton). Unspecified species annoying cattle at Richmond, Cache County. (Thornley).

LONE STAR TICK (Amblyomma americanum) - OKLAHOMA - Heavy on livestock in wooded areas of Marshall County; moderate in Hughes County, light in Choctaw County. Moderate in lawns in Bryan County. (Okla. Coop. Sur.).

#### BENEFICIAL INSECTS

LADY BEETLES - WASHINGTON - Stethorus picipes giving good control of Tetranychus mcdanieli (McDaniel spider mite) June 8 at Parker, Yakima County. Eggs, larvae, and adults of unspecified species feeding on T. urticae (twospotted spider mite) on hops June 11 at Grandview, Yakima County. (Gregorich, Cone). INDIANA - Parasitism of Coleomegilla maculata by Perilitus coccinellae (a braconid) first observed in specimens collected in Sullivan, Vigo, and Morgan Counties. (Meyer).

WYOMING - Adults of unspecified lady beetles ranged 1-11 per 10 sweeps in alfalfa of Fremont, Hot Springs, Washakie, Big Horn, and Park Counties; no larvae to date. (Parshall, Lawson). ARIZONA - Hippodamia convergens (convergent lady beetle) adults averaged 93.3 in 3 fields of alfalfa at Yuma, Yuma County. (Ariz. Coop. Sur.).

A GREEN LACEWING (Chrysopa sp.) ARIZONA - Averaged 90 per 100 sweeps of alfalfa at Yuma Valley, Yuma County. (Ariz. Coop. Sur.).

AN ICHNEUMON (Bathyplectes curculionis) - KENTUCKY - Parasitized 3 of 107 Hypera postica (alfalfa weevil) larvae, none of 94 larvae, 3 of 103 larvae, 4 of 92 larvae, and 1 of 42 larvae taken from fields in Lincoln County; none of 135 larvae, none of 61 larvae, 2 of 75 larvae, 1 of 83 larvae, 1 of 20 larvae, none of 69 larvae, 3 of 60 larvae, 4 of 79 larvae, and 2 of 62 H. postica larvae taken from fields in Warren County. (Barnett).

A PHYTOSEIID MITE (Metaseiulus occidentalis) - WASHINGTON - Found on hops, feeding on Tetranychus urticae (twospotted spider mite) June 11 at Grandview, Yakima County. (Cone).

#### FEDERAL AND STATE PLANT PROTECTION PROGRAMS

New Noxious Weed Causing Damage to Sugarcane - RAOULGRASS (Rottboellia exaltata L.f.) is a native of tropical Asia and was first discovered in the United States at Miami, Florida, in 1920. In Louisiana, raoulgrass was first observed along a railroad track in St. Martin Parish in 1927. By 1951, it had spread to several sugarcane fields and was rapidly becoming a serious pest. Presently it is known to occur in St. Martin, Lafourche, Iberia, Pointe Coupee, and Terrebonne Parishes. Its spread is attributed to the dissemination of seed by floods, birds, and farm machinery. Raoulgrass is a coarse branching annual that grows to a height of over 6 feet in Louisiana. It has a pale green color, stiff short hairs that cover the leaf sheaths, brace roots that arise from the nodes near the base of the plant, a cylindrical spike-like inflorescence that tapers toward the apex, and cylindrical seeds. In Louisiana, seeds are produced continuously from the time the plants are approximately 26 inches tall until frost. Seeds germinate periodically throughout the growing season and can emerge from soil depths of 6 inches. The extremely rapid growth of raoulgrass under cultivated conditions, and its production of a large number of seeds throughout the growing season, indicate that this weed is a potentially serious pest of sugarcane as well as other crops, such as soybeans and corn. (PPD).

BOLL WEEVIL (Anthonomus grandis) - TEXAS - Wing traps baited with synthetic pheromone detected increased boll weevil activity below Caprock in Hall, Dickens and Kent Counties. Numbers trapped to date less than 1970. Overwintered weevils have not been detected above Caprock. (Rummel, Clymer). For boll weevil in other areas see page 449.

CEREAL LEAF BEETLE (Oulema melanopus) - MICHIGAN - Tetrastichus julis (a eulophid wasp) and Diaparsis sp. (an ichneumon) recovered for second year in Cass County. (Maltby). O. melanopus damage spotty in Osceola County, with some fields sprayed. (Kirch). OHIO - Damage serious to many oatfields June 15 in Fayette County. (Grove). PENNSYLVANIA - Heavy infestation on oats in Beaver and Lawrence County, third instars June 10. (Negley).

CITRUS BLACKFLY (Aleurocanthus woglumi) - TEXAS - Two citrus seedlings infested at Olmito, Cameron County as of June 17. Delimiting surveys underway. (PPD).

A GRASS BUG (Irbisia pacifica) - WASHINGTON - Damaged winter wheat at Waterville, Douglas County. (Busek, Retan). IDAHO - Damaged wheatgrasses and giant wild rye in Elmore County. (Edwards). UTAH - I. pacifica and Labops hesperius discolored crested wheatgrass over large areas of rangeland in Kane and Garfield Counties.

Canyons most heavily infested near Bryce National Park, heaviest in Skunk Creek area; damaged 40,000 acres, counts of 25 per square yard still present. (Thornley, Petty). Irbisia pacifica damage light to wheat grasses west of Fillmore in Millard County, (Judd) with some damage in Browns Park area of Uintah County. (Oldroyd). Small numbers of grass bugs on crested wheatgrass in valley 8 miles west of Nephi, Juab County. (Davis, Knowlton).

GRASSHOPPERS - IDAHO - First control program of 45,000 acres began June 14 in Glens Ferry area, Elmore County. Other control programs will probably include 17,000 acres in Garden Valley area, and 43,000 acres on Middle Fork of Boise River, Boise County. Heavy populations reported from Bell Rapids area, west of Hagerman, Twin Falls County. Ranged up to 100 per square yard in Indian Valley area of Gem and Washington Counties. (Evans). Second and third instars of Camnula pellucida 15-20 per square foot in range area southeast of Council, Adams County, June 13. (Foster). CALIFORNIA - About 24,000 acres treated for grasshopper in San Diego County ending June 15. Control excellent. (PPD). NEVADA - Nymphs moving into 200 acres of alfalfa from drying rangeland at upper Clover Ranch, Elko County; ranged 100-125 per square yard. Band on rangeland about 0.25 mile wide and 3-4 miles long. (Rowe). UTAH - Mostly nymphs of Melanoplus confusus 20 per square yard on 25,000 acres of rangeland in Johnson Canyon, Kane County (Thornley, Petty); nymphs 2-8 per 10 sweeps in valley 8 miles west of Nephi, Juab County. (Knowlton, Davis). NEW MEXICO - Mostly first and second instars caused medium to heavy spotty damage in gardens in Albuquerque, Bernalillo County. (Heninger). OKLAHOMA - Moderate to heavy on rangeland from Carter, Love, Jefferson, Marshall, Murray, Johnston, Pontotoc, Coal, and Atoka Counties. Grasshoppers moving into Bermudagrass pastures in some areas; ranged up to 30 per square yard in Atoka County. Control programs planned for some areas. Damage to home gardens reported from some counties. (Okla. Coop. Sur.). NORTH DAKOTA - Damaged soybeans and sunflowers in Cass and Grand Forks Counties. In southeast Cass County, light damage present 30 yards into some soybean fields. Roadside and field margin populations ranged up to 20 per square yard. Melanoplus bivittatus dominant, with 10 percent first instars, 60 percent second, 25 percent third, and 5 percent fourth instar. (Brandvik). MINNESOTA - Hatch underway of Melanoplus femurrubrum in Goodhue, Dakota, Sherburne, Wright, and Hennepin Counties. Nymphs 45 per square yard in field of alfalfa in Goodhue County, some M. differentialis and M. bivittatus present. Damage evident but not serious. Nymphs 8 per square yard in field of red clover in same county. Heaviest nymphal count 6 per square yard in Sherburne and Wright Counties. (Minn. Pest Rpt., June 11).

GYPSY MOTH (Porthetria dispar) - MAINE - Sixth instars noted and signs of defoliation apparent in Fryeburg area in Oxford County. Fourth instars and light or no defoliation in Benton area in Kennebec County. These infestations cover small area. (Leonard). VERMONT - Larvae feeding on sugar maple in Burlington, Chittenden County. (Nielsen). CONNECTICUT - Most third to fifth instar; expect damage to increase. Over 95 percent of inquiries received concerned this species. (Savos). PENNSYLVANIA - Feeding heavy in Berks, Monroe, and Pike Counties. Most third and fourth instars, defoliation heavy, 180 acres of woodland in Somerset County treated. (Eckess). Spray program completed for 770 acres in Schuylkill County, 9,790 acres in Pike County, 5,304 acres in Monroe County, and 4,364 acres in Northampton County. Released Exorista rossica and Drino sp. (tachinia flies) and Rogas sp. and Apanteles sp. (braconids) at 3 separate times in south Manheim Township, Schuylkill County. Mated females of Exorista spp. released 2,100 on May 7, 960 on June 4, 600 on June 11, 1,217 Rogas sp. on May 7, and 130 Apanteles sp. on June 4, and 100 Drino sp. on June 11. (Simons).

JAPANESE BEETLE (Popillia japonica) - NORTH CAROLINA - Adults observed on tobacco, cucumbers, and corn in Green, Lenoir, Duplin, and Wayne Counties. Averaged 1 per plant in 6 fields of corn. (Johnson et al.).

MEXICAN FRUIT FLY (Anastrepha ludens) - CALIFORNIA - One adult male, no indications of being sterilized, collected from McPhail trap by D. Hendrickson, May 28, 1971, in Corona, Riverside County. This is a new area and first fly trapped in Riverside County. Trapping increased. (Cal. Coop. Rpt.).

MORMON CRICKET (Anabrus simplex) - UTAH - None found in Monte Cristo area of Rich and Weber Counties, where some occurred during recent years. (Thornley).

PINK BOLLWORM (Pectinophora gossypiella) - CALIFORNIA - Sterile moths released in Kern County 1,881,250; total of 30,901,000 as of June 17. (PPD). ARIZONA - First rosetted bloom at Parker Valley June 15 in Yuma County. Seven moths caught in cages at Safford Graham County. This species and Thurberiphaga diffusa (a noctuid moth) found in 1,300 wild Gossypium thurberi bolls; 4 percent of bolls infested with T. diffusa and 1 seed with P. gossypiella larva on May 29 in Maricopa County by K. Rohwer. Numerous bolls of G. thurberi inspected previously with negative results. (Ariz. Coop. Sur.). First sterile moth trapped on June 11 at Monmouth, Pima County. Total sterile moths released 128,000 at Redington. (PPD).

WEST INDIAN SUGARCANE ROOT BORER (Diaprepes abbreviatus) - FLORIDA - Adult taken in 7 acre citrus grove at Plymouth, Orange County as of June 17. (PPD).

WHITEFRINGED BEETLES (Graphognathus spp.) - NORTH CAROLINA - Reports and surveys near Holly Springs, Wake County, reveal 3 infested tobacco fields and one cornfield. Tobacco fields (about 5 acres each) 1 spot per field (one-fourth to 1 acre) within which 30-70 percent of plants heavily damaged and many dead. Infestations in corn light; only 3 infested plants found in 10 minutes. Observations also made in Union County in fields heavily infested in 1970, no larvae or adults found. (Brock et al.). ALABAMA - Larvae 2 per plant in 6 acres of 10 to 12-inch tall corn, 51 percent killed, in Blount County. (Green). Larvae continue to damage cotton in Excel area of Monroe County, in older cotton damage 5 percent. Damage previously reported in several fields increased 10+ percent. Larvae caused light damage to lima beans in garden in Conecuh County. (Lemons). Larvae of this species and adults of Euethola rugiceps (sugarcane beetle) destroyed 90 percent of corn plants in 20-acre field in Washington County. Threaten 30 acres of soybeans in same area. (Lemons, Estes). First adult at Birmingham Airport, Jefferson County on June 8. (Green). Current adult emergence light throughout peanut field north-east of Dothan in Houston County. Grower plans control program in combination with regular disease control. (Wilson, Stevenson). Larvae heavy in large wheatfield at Ashford in Houston County while turning soil after harvest. Wheat yields very poor and believe that yields severely cut as a result of hidden early damage by larvae. (Roney).

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## NATIONAL WEATHER SERVICES'S 30-DAY OUTLOOK

MID-JUNE TO MID-JULY 1971

The National Weather Service's 30-day outlook for mid-June to mid-July is for temperatures to average below seasonal normals over the West Coast States and from the middle Mississippi Valley to the middle Atlantic coast. Above normal temperatures are indicated for the southern Plains, the gulf coast, and along the northern border from North Dakota to the Great Lakes. In unspecified areas near normal temperatures are in prospect. Rainfall is expected to exceed normal over the upper Mississippi Valley, the upper Great Lakes, the middle Atlantic coast and the far Northwest. Subnormal totals are indicated for the gulf coast region and most of the Southwest. Elsewhere near normal amounts are expected.

Weather forecast given here is based on the official 30-day "Resume and Outlook" published twice a month by the National Weather Service. You can subscribe through the Superintendent of Documents, Washington, D.C. 20250. Price \$5.00 a year.

HAWAII INSECT REPORT

Turf and Pasture - GRASS WEBWORM (Herpetogramma licarsisalis) adults and larvae light at Waihee and Haikum, Maui, elevation 120 feet; averaged one larva per square foot in Kikuyu grass pasture. (Miyahira).

General Vegetables - All stages of BEAN BUTTERFLY (Lampides boeticus) medium to heavy at Hilo, Hawaii, and Ewa, Oahu. In Hilo, 75 percent of blossoms and immature pods with one larva. Adults ranged 40-50 in 2.5 acres of long bean planting at Ewa. (Matayoshi, Au). SOUTHERN GREEN STINK BUG (Nezara viridula) nymphs and adults light to moderate in soybeans, long beans, and tomatoes at Waimanalo and Ewa, Oahu. Adults and nymphs 3-4 per sweep in 3 acres of long bean and tomato plantings at Ewa. Eggs of Trichopoda pennipes var. pilipes (a tachina fly) noted on some N. viridula adults. (Sato, Au). Larvae and adults of LEEK MOTH (Acrolepia assectella) and ONION THRIPS (Thrips tabaci) light to heavy on green onions at Pearl City and Waianae, Oahu, and at Kahului, Maui. T. tabaci larvae and adults 2-4 per plant in 300-foot row plantings at Kahului. (Yamamoto, Miyahira).

Fruits and Nuts - FLORIDA RED SCALE (Chrysomphalus aonidum) light, as many as 100 per leaflet (generally 3-8), on 200+ coconut trees at Kahului, Maui. (Miyahira).

Ornamentals - GREEN SHIELD SCALE (Pulvinaria psidii) adults heavy on gardenia at Hawaii Kai, Oahu; 80 percent of foliage of several trees with average of 5 per leaf. Larvae of Cryptolaemus montrouzieri (a lady beetle) preying upon scale. (Kashiwai).

Beneficial Insects - A PUNCTUREVINE STEM WEEVIL (Microlarinus lypriformis) moderate on puncturevine in several areas of Maui. Fifty percent of 243 Tribulus terrestris internodes collected from Lahaina, Maalaea, Kahului, Waikapu, and Puunene infested; 48 percent of 60 T. cistoides internodes from Kihei infested. (Miyahira).

Miscellaneous - Adult and nymph of a GRASSHOPPER (Trimerotropis pallidipennis) sighted in dry grass at Barbers Point Naval Air Station, Oahu. Surveys planned. (Olson).

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**DETECTION**

New State Record - A JUMPING GROUND BUG (Ceratocombus vagans) - NEW HAMPSHIRE - Specimens extracted from leaf litter by Berlese funnel. Collected July 24, 1969, at Allenstown, Hillsboro County, by R.M. Reeves. Determined by R.L. Blickle. (Blickle).

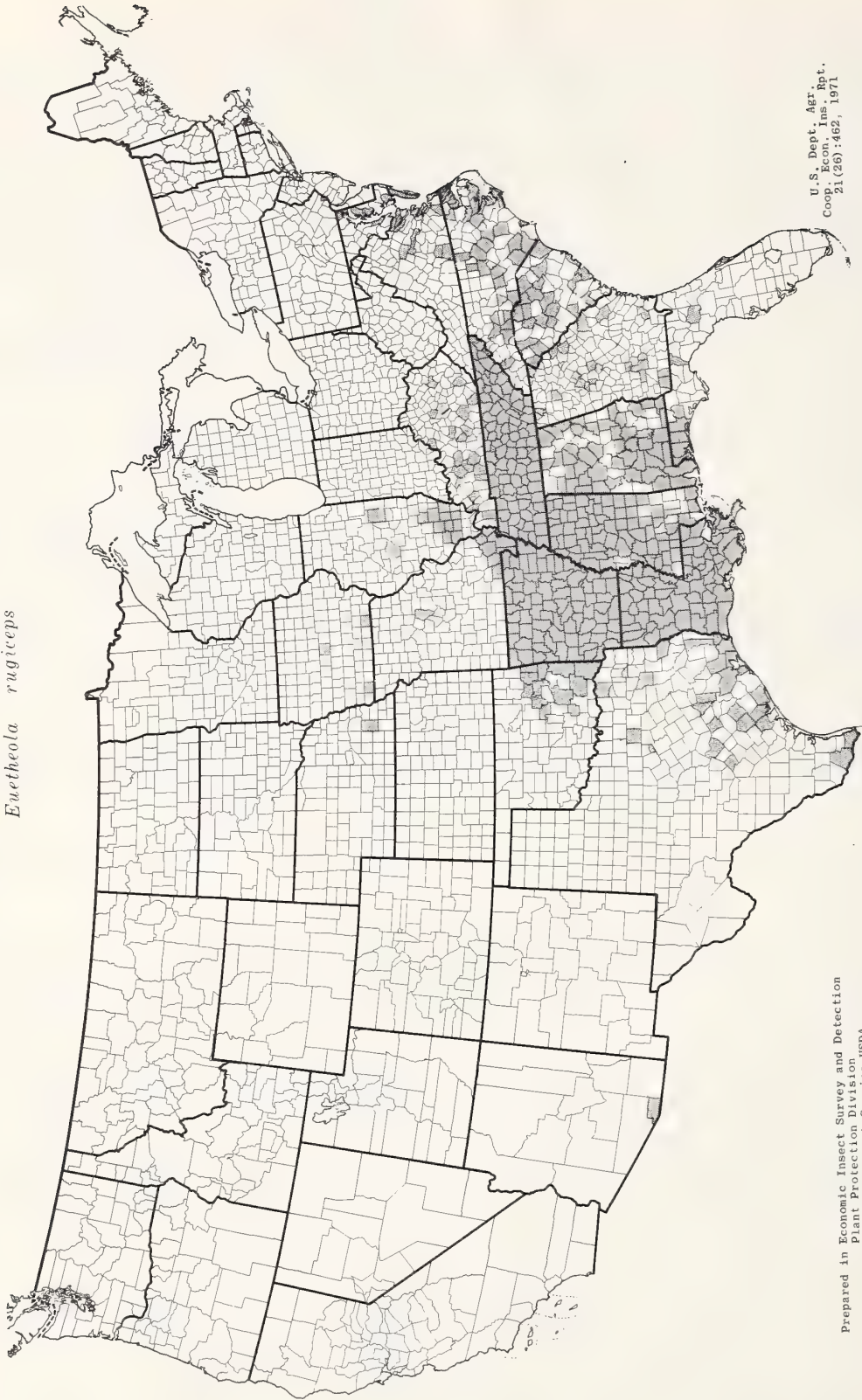
New County Records - ALFALFA WEEVIL (Hypera postica) OKLAHOMA - McCurtain, Pushmataha; NEBRASKA - Butler, Loup; MISSOURI - Nodaway, Holt; MINNESOTA - Olmsted, Steele, Dodge, Mower, Faribault, Waseca, Goodhue, Washington, Dakota, Scott, Carver, Blue Earth, Le Sueur; IOWA - Hardin, Hamilton, Webster, Greene. (p. 447). A CONIFER SAWFLY (Neodiprion taedae linearis) TENNESSEE - Houston. (p. 454). MEADOW PLANT BUG (Leptopterna dolabratus) MISSOURI - Sullivan, Linn. (p. 446). SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) TENNESSEE - Greene. (p. 455).





# Distribution of Sugarcane Beetle

*Euthetola rugiceps*



U. S. Dept. Agr.  
Coop. Econ. Ins. Rpt.  
21 (26) : 462, 1971

Prepared in Economic Insect Survey and Detection  
Plant Protection Division  
Agricultural Research Service USDA  
June 18, 1971

INSECTS NOT KNOWN TO OCCUR IN THE UNITED STATES

LAPPET MOTH (Gastropacha quercifolia (L.))

Economic Importance: The larvae damage peaches and plums in the spring by partially or totally destroying the buds, flowers, and leaves. This not only affects the amount of fruit harvested but interferes with the development of the tree. Damage is more extensive in young trees before the branches are formed. Larvae almost completely destroy the foliage, leaving only small portions of the central ribbing and fragments on the edge of the leaf. Serious damage to young fruit trees has been reported in Italy and England. The lappet moth has been recorded throughout Japan as common on apple, pear, plum, and apricot. It sometimes strips branches and shoots of the host plant in that country. Various shade trees also are attacked. The species has been intercepted twice in quarantine.

Distribution: Austria, China (eastern area of the mainland), Bulgaria, Great Britain, France, Italy, Japan, Korea, Near East, Spain, Sweden, USSR (southern Europe area and eastern Siberia).

Hosts: Apple, hawthorn, pear, peach, plum, apricot, and cherry. Elm, oak, willow, and various other shade trees.

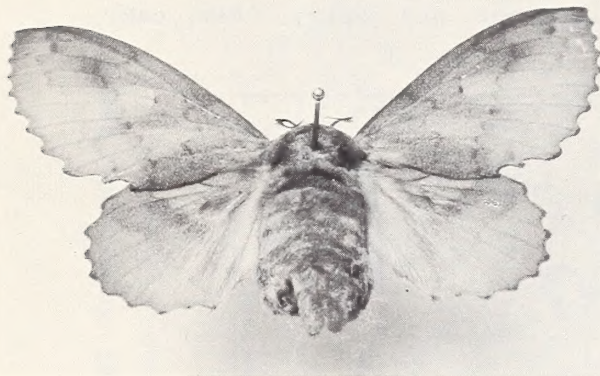


General Distribution of Gastropacha quercifolia

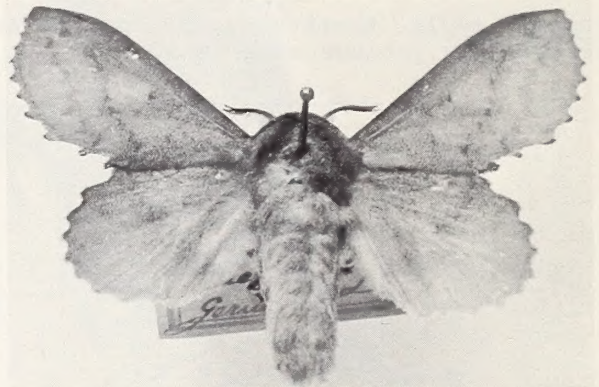
Life History and Habits: Under conditions in France, moths begin to fly and mating takes place during the early part of July. The females, which are very heavy, fly little. They deposit ovoid, white eggs singly on the bark and foliage. Larvae appear toward the end of July and overwinter as third instars and hide beneath branches, in cracks of trunks or other shelter. Larval activity begins early in the spring (March 22 in the region of Paris). Growth is rapid and larvae become quite large. Larvae pupate in a silken cocoon at the end of June and adults emerge about 2 weeks later. Under favorable conditions, two generations a year have been recorded in Europe.

Description: ADULT MALE - Forewing length about 23-31 mm. FEMALE - Forewing length 30-45 mm. Body massive, straw yellow to dark purplish brown in color. Wings same color as body and broadly triangular with outer margin scalloped.

Forewing with 3 serrate dark or blackish lines of variable intensity. Hind wing with only 2 transverse lines usually more diffuse and often less prominent than forewings. Antennae pectinate. The species may be separated from sphingids, saturniids and other large moths by the hind wing which lacks a frendulum (hooking device); the expanded humeral angle with two or more humeral veins; and the cubitus which appears to be four-branched. PUPA - Dark brown, almost black and covered with a whitish powdery substance. Cocoon grayish brown. LARVA - About 100 mm. long when full grown. Body dark gray to almost black, but color varies considerably corresponding to the bark of its food plant. Body covered with fine, short blackish hair. Above the legs on each side is a fringe of brownish hair which covers the fleshy padlike appendages, often called lappets. Two white marks edged in front with black on the third segment and a hairy prominence on the eleventh are characteristic features of this larva. Head gray, with darker stripe and rather pale lines. At times, several white marks appear on the dorsum. EGG - Whitish with gray markings.



Female



Male



Larva

Gastropacha quercifolia

Selected References: 1. Bibolini, C. 1959. Riv. della Ortoflorofruitticoltura Italiana 43(1/2):65-73. 2. Collier, W. A. 1936. Lasiocampidae. In Lepidopterorum Catalogue by E. Strand. pp. 17-35. Includes numerous taxonomic refs. 3. Nagano, K. 1917. Nawa Ent. Lab. Bul. 2:12-13, Plate V. 4. Pierce, W. D. 1917. A Manual of Dangerous Insects Likely to be Introduced in the United States Through Importations. 256 pp. (U.S. Dept. Agr.). 5. Seitz, A. 1906. Die gross Schmettlinge der Erde. Vol. II, plate 27, rows d and e. pp. 168-169. Colored plates. 6. South, R. 1907. The Moths of the British Isles. First Series. pp. 126-128, London, New York. Colored Plates. Illustration of larva from Nagano.

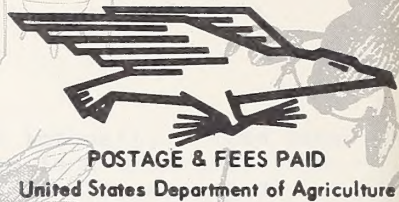
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other ARS agencies

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Coop. Econ. Ins. Rpt.  
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Hyattsville, Maryland 20782

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